

"FEINSTEIN ENGINE "

POSITIVE DISPLACEMENT TURBINE ENGINE

INVENTOR:

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CLAIMS :

1. A Positive Displacement Turbine engine incorporating a bladed rotor revolving within a casing enfolding adjacent and isolated intake/compression and expansion/exhaust chambers and by virtue of these features is acquiring compression force and applying power output at entirely different locations along the common shaft.
2. A Positive Displacement Turbine engine as described in claim 1 incorporating adjacent and isolated intake/compression and expansion/exhaust chambers developing compression and expansion processes by virtue of closely toleranced rotor and outer casing, and these required to continue formidably bounded for the duration of compression sweep or further in the expansion/exhaust section and for the duration of expansion sweep or further in the intake/compression section.
3. A Positive Displacement Turbine engine as described in claims 1 and 2 incorporating adjacent and isolated intake/compression and expansion/exhaust chambers employing internally mounted rotating combustion chamber(s) carrying out compressed air accumulation, combustion products generation and discharge into a single or multiple chambers where expansion results in an applied torque to the blade/rotor system, which in turn develops power output.
4. A Positive Displacement Turbine engine as described in 1, 2 and 3 having the means to incorporate compression/combustion/expansion chamber elements of different displacement (or total swept volume) symmetrically along a common shaft system, such that advantage can be taken of variable compression to expansion volume ratio, i.e., the swept volume of compression need not be the same as the swept volume of expansion, as has to be the case in the reciprocating engine, since adjacent chambers can now be segregated by design to perform either all compression and/or all expansion at respective locations in axial and/or radial planes of symmetry along the common shaft.
5. A Positive Displacement Turbine engine as described in claims 1, 2, 3 and 4 incorporating multiple internally mounted combustion chambers distributed along the rotor such that a multiple distribution of rotor blades and accompanying outer casing(s) a multi-chamber arrangement of varying volume are formed and can be individually tuned to provide either constant volume or constant pressure cycle achieved by further admission of fuel.

6. A Positive Displacement Turbine engine as described in 1, 2, 3, 4 and 5 incorporating variable blades constrained from making contact with, but closely following the casing profile, forming a 'leaky' gas seal with the dividing boundaries at each end of the blades as well as with their tips at the casing inner diameter and therefore permitting blade evading gas to be employed once more in the subsequent expansion and/or compression chamber(s) consequently increasing power output as well as volumetric and overall thermal efficiency.